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EPA Evaluation of the Platinum Gasaver Device under Section 511 of the Motor Vehicle Infomation and Cost Savings Act

(U.S.) Environmental Protection Agency
Ann Arbor, MI

May 81

U.S. Department of Commerce
National Technical Information Service

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EPA-AA-TEB-511-81-14

EPA Evaluation of the Platinum Gasaver Device under Section 511 of the Motor Vehicle Information and Cost Savings Act

by

John C. Shelton

May, 1981

Test and Evaluation Branch
Emission Control Technology Division
Office of Mobile Source Air Pollution Control
U.S. Environmental Protection Agency

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(Please read Instructions on the reverse before completing)

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15. SUPPLEMENTARY NOTES

16. ABSTRACT

This document announces the conclusions of the EPA evaluation of the "Platinum Gasaver" device under provisions of Section 511 of the Motor Vehicle Information and Cost Savings Act.

On February 1, 1981, the EPA received a request from Pegusus Enterprises for evaluation of a fuel saving device termed "Platinum Gasaver". This device is claimed "...to improve mileage at least 20% and to cut down on harmful emissions." This device consists of a Gasaver instrument which is filled with 12 ounces of Gasaver solution. A line from the Gasaver instrument is connected to a vacuum line at the base of the carburetor. The Gasaver solution is bubbled at a slow rate into the engine.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Fuel consumption Exhaust emissions Automobiles Motor Vehicles	Fuel economy Gas saving devices	

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS (This Report)	21. NO. OF PAGES
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ATTENTION

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6560-26

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 610]

[FRL _____]

FUEL ECONOMY RETROFIT DEVICES

Announcement of Fuel Economy Retrofit Device Evaluation for "Platinum Gasaver"

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of Fuel Economy Retrofit Device Evaluation.

SUMMARY: This document announces the conclusions of the EPA evaluation of the "Platinum Gasaver" device under provisions of Section 511 of the Motor Vehicle Information and Cost Savings Act.

BACKGROUND INFORMATION: Section 511(b)(1) and Section 511(c) of the Motor Vehicle Information and Cost Savings Act (15 U.S.C. 2011(b)) requires that:

(b)(1) "Upon application of any manufacturer of a retrofit device (or prototype thereof), upon the request of the Federal Trade Commission pursuant to subsection (a), or upon his own motion, the EPA Administrator shall evaluate, in accordance with rules prescribed under subsection (d), any retrofit device to determine whether the retrofit device increases fuel economy and to determine whether the representations (if any) made with respect to such retrofit devices are accurate."

(c) "The EPA Administrator shall publish in the Federal Register a summary of the results of all tests conducted under this section, together with the EPA Administrator's conclusions as to -

(1) the effect of any retrofit device on fuel economy;

(2) the effect of any such device on emissions of air pollutants; and

(3) any other information which the Administrator determines to be relevant in evaluating such device."

EPA published final regulations establishing procedures for conducting fuel economy retrofit device evaluations on March 23, 1979 [44 FR 17946].

ORIGIN OF REQUEST FOR EVALUATION: On February 1, 1981, the EPA received a request from Pegusus Enterprises for evaluation of a fuel saving device termed "Platinum Gasaver". This Device is claimed "... to improve mileage at least 20% and to cut down on harmful emissions." This device consists of a Gasaver instrument which is filled with 12 ounces of Gasaver solution. A line from the Gasaver instrument is connected to a vacuum line at the base of the carburetor. The Gasaver solution is bubbled at a slow rate into the engine.

Availability of Evaluation Report: An evaluation has been made and the results are described completely in a report entitled: "EPA Evaluation of the Platinum Gasaver Device Under Section 511 of the Motor Vehicle Information and Cost Savings Act," report number EPA-AA-TEB-511-81-14 consisting of 32 pages including all attachments.

Copies of this report may be obtained from the National Technical Information Center by using the above number. Address requests to:

National Technical Information Center
U.S. Department of Commerce
Springfield, VA 22161
Phone: Federal Telephone System (FTS) 737-4650
Commercial: 703-487-4650

Summary of Evaluation

EPA fully considered all of the information submitted by the Device manufacturer in the Application. The evaluation of the "Platinum Gasaver" device was based on that information. The Applicant submitted no valid data to support the claims for lower emissions or increased fuel economy. The Applicant had been advised by letter on several occasions of EPA's requirement that he submit valid test data following the proper EPA test procedures. The Applicant was unable to provide the required test data. He was advised that EPA was still required to complete the evaluation based on the available information and publish the results. The Applicant indicated he may attempt to get the required data at a later date and resubmit the application.

Therefore, based on the information provided by the Applicant, there is no technical basis to support any claims for a fuel economy improvement or emissions reduction with the "Platinum Gasaver".

FOR FURTHER INFORMATION CONTACT: Merrill W. Korth, Emission Control Technology Division, Office of Mobile Source Air Pollution Control, Environmental Protection Agency, 2565 Plymouth Road, Ann Arbor, Michigan 48105, 313-668-4299.

Date

Edward F. Tuerk
Acting Assistant Administrator
for Air, Noise, and Radiation

EPA Evaluation of the Platinum Gasaver Device under Section 511 of the Motor Vehicle Information and Cost Savings Act

The following is a summary of the information on the device as supplied by the Applicant and the resulting EPA analysis and conclusions.

1. Marketing Identification of the Device:

PLATINUM GASAVER Trade Mark

2. Inventor of the Device and Patents:

A. Inventor

"A patent application is filed and is pending. The owner of the patent rights is"

Joel Robinson
501 Washington Street
Brookline, MA 02146

B. Patent

Until the U.S. Patent Office acts on the patent application, Pegusus Enterprises declines to submit this data to protect the patent rights.

3. Manufacturer of the Device:

National Fuelsaver Corporation
667 Washington Street
Brookline, MA 02146

4. Manufacturing Organization Principals:

"Not Applicable."

5. Marketing Organization in U.S. making Application:

Pegusus Enterprises
6835 North Algonquin Avenue
Chicago, IL 60646

6. Applying Organization Principals:

President: Jacek Helenowski

7. Description of Device:

A. Purpose of the Device (as supplied by Applicant):

"The purpose of the device is to improve mileage at least 20% and to cut down on harmful polluting emissions."

B. Theory of Operation (as supplied by Applicant):

"The Platinum Gasaver process operates on the chemical principal of having platinum present where fuel is burned. The process introduces microscopic quantities of platinum into the engine along with the fuel and air while the vehicle is driven. With the platinum present in the combustion chamber of the engine, a higher percentage of each gallon of fuel will be burned, resulting in a significant increase in miles per gallon."

"Since the platinum injection system coats the engine surfaces in a gradual process, it is important to be aware that your vehicle may have to be driven up to 1,800 miles before the platinum process becomes fully effective." See Attachment B for additional information.

C. Detailed Description of Construction (as supplied by Applicant):

For detailed description of construction see packing contents and installation instructions, Attachment B.

8. Applicability of the Device (as supplied by Applicant):

"Is applicable to all automobiles and/or all trucks with or without turbocharger, fuel-injection or carburetor. It works with both leaded and unleaded fuel and is complementary with any improvement gained by improved lubrication."

The different model numbers are:

SU-1 for gasoline powered automobiles that average 9 m.p.g. or above before the device is installed.

SU-2 for diesel powered automobiles that average 9 m.p.g. or above before the device is installed.

SU-3 for diesel powered automobiles that average 6-8 m.p.g. before the device is installed.

SU-4 for diesel powered trucks that average 6-8 m.p.g. before the device is installed.

SU-5 for diesel powered trucks that average 5 m.p.g. before the device is installed.

9. Costs (as supplied by Applicant):

A 24,000 mile supply of the platinum costs $119 - and includes the equipment for two vehicles at no extra cost. A 12,000 mile supply costs $69 - and includes the equipment for one car at no extra cost.

10. Device Installation - Tools and Expertise Required (as supplied by Applicant):

A. Complete installation instructions are contained in Attachment B.

B. Only simple hand tools are required for installation.

11. Device Operation (as supplied by Applicant):

"Once the device is installed the operator must add a bottle of Gasaver concentrate every 6,000 miles.

12. Maintenance (claimed):

None

13. Effects on Vehicle Emissions (non-regulated) (claimed):

"At the absolute most, less than 1/4 of one gram of platinum will be admitted to the atmosphere during one year (12,000 miles) of driving."

14. Effects on Vehicle Safety (claimed):

This device does not endanger the automobile or its occupants or persons or property in close proximity to the automobile.

15. Test Results (Regulated Emissions and Fuel Economy) (submitted by Applicant):

A. A fleet of fifteen 1980 Chevrolet station wagons with 305 cubic inch V-8 engines were tested both without and with the Gasaver Device installed. The results are summarized in Attachment B.

B. A Hyster Lift Truck (NASA 095675) was evaluated in August 1979 for total hydrocarbons and fuel economy. The results of this evaluation are included in Attachment C.

16. Discussion

EPA corresponded several times (see Attachments A through E) with the Applicant in an attempt to obtain valid test data. The Applicant chose not to provide the required valid test data (1) and so informed EPA by telephone on March 19, 1981. EPA had previously notified the Applicant that EPA was obligated to complete the evaluation based on the information available and publish the results. The requirement for completing the evaluation was again discussed and the Applicant concurred.

17. Conclusions

EPA fully considered all of the information submitted by the Applicant. The evaluation of the "Platinum Gasaver" was based on that information. The Applicant did not submit any valid data to support the claims for increased fuel economy and lower emissions. The Applicant was advised by letter on several occasions of EPA's requirement that Applicant's submit valid test data following the

proper EPA test procedures(1). Based on the information provided by the Applicant, there was no technical basis to support any claims for a fuel economy improvement or emission reduction with the "Platinum Gasaver".

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(1) From EPA 511 Application test policy documents:

Test Results (Regulated Emissions and Fuel Economy):
Provide all test information which is available on the effects of the device on vehicle emissions and fuel economy.

The Federal Test Procedure (40 CFR Part 86) is the only test which is recognized by the U.S. Environmental Protection Agency for the evaluation of vehicle emissions. The Federal Test Procedure and the Highway Fuel Economy Test (40 CFR Part 600) are the only tests which are normally recognized by the U.S. EPA for evaluating vehicle fuel economy. Data which have been collected in accordance with other standardized fuel economy measuring procedures (e.g. Society of Automotive Engineers) are acceptable as supplemental data to the Federal Test Procedure and Highway Fuel Economy Data will be used, if provided, in the preliminary evaluation of the device. Data are required from the test vehicle(s) in both baseline (all parameters set to manufacturer's specifications) and modified forms (with device installed).

List of Attachments

Attachment A	Copy of December 17, 1980 letter from EPA to Pegusus Enterprises containing information describing the process to apply for an EPA evaluation of a device.
Attachment B	Copy of January 21, 1981 letter from EPA to Pegusus Enterprises returning a device which was received without an application for evaluation.
Attachment C	Copy of February 1, 1981 letter from Pegusus Enterprises with an incomplete application for evaluation of device. The application did not contain any valid test data.
Attachemnt D	Copy of March 11, 1981 letter from EPA to Pegusus Enterprises containing an initial review of the application. This letter again notified the Applicant EPA would require additional data/information to process the application.
Attachment E	Copy of March 11, 1981 letter from EPA to Pegusus Enterprises detailing the type of valid test data required before EPA could test the device.

December 17, 1980

Reproduced from best available copy.

Mr. Jacek Helenowski
Pegusus Enterprises
6835 North Algonquin Ave.
Chicago, IL 60646

Dear Mr. Helenowski:

This letter is in response to your inquiry of 12/17/80 regarding an EPA evaluation of the Platinum Gasaver. The Environmental Protection Agency is charged by Congressional mandate to evaluate fuel economy and emission control devices. While the EPA does not actually "approve" such devices, it does conduct evaluations for the purpose of increasing the common knowledge in the area. For this reason, the outcome of any testing by EPA becomes public information. It is this information which may be cited although no claims can be made that any EPA findings constitute "approval" of the device or system.

Enclosed with this letter is a packet of materials which you will need to apply for an EPA evaluation of your device. This packet consists of 1) an application format, 2) a document entitled "EPA Retrofit and Emission Control Device Evaluation Test Policy" and 3) a copy of the applicable Federal Regulations.

In order for the EPA to conduct an evaluation of your device, we must have an application. Once you have reviewed all the documents in the packet, you should prepare an application in accordance with the guidelines of the application format. A critical part of the application is the substantiating test data. The required test results will have to be obtained at a laboratory of your choice. Such testing would be conducted at your expense. A list of laboratories which are known to have the equipment and personnel to perform acceptable tests has been included in the enclosed packet. If you desire, we can assist you in the development of a satisfactory test plan.

There are, however, several aspects concerning testing at an outside laboratory which I would like to bring to your attention at this time:

Mimimum Test Requirements - Although different types of devices may require a more complex test plan, the minimum we require involves two vehicles and two test sequences run in duplicate. The vehicles should be selected from those listed in Table 1; if possible. Each vehicle is to be set to manufacturer's tune-up specifications for the baseline tests.

The tests are conducted in a "back-to-back" manner, once with the vehicle in baseline condition and again with the device installed with no vehicle adjustments between tests. If installation of the device also involves some adjustments, e.g. timing, fuel-air mixture, choke or idle speed, another test sequence with only these adjustments should be inserted between the first and last. Also as a minimum, the test sequence shall consist of a hot-start LA-4 portion (bags 1 and 2) of the Federal Test Procedure (FTP) and a Highway Fuel Economy Test (HFET). The details of these tests are contained in the enclosed packet. Although only a hot-start FTP is required to minimize the costs to you, you are encouraged to have the entire cold-start test performed since any testing and evaluation performed by EPA will be based on the complete FTP and you may wish to know how a vehicle with your device performs over this official test. As a final requirement, the personnel of the outside laboratory you select should perform every element of your test plan. This includes preparation of the test vehicle, adjustment of parameters and installation of the device.

Submission of data - We require that all test data obtained from the outside laboratories relative to your application be submitted to us. This includes any results you have which were declared void or invalid by the laboratory. We also ask that you notify us of the laboratory you have chosen, when testing is scheduled to begin, what tests you have decided to conduct, allow us to maintain contact with the laboratory during the course of the testing, and allow the test laboratory to directly answer any questions at any time about the test program.

Cost of the Testing - The cost of the minimum test plan (two vehicles, two test sequences in duplicate) described above should be less than $2000 per vehicle and less than $4000 for the total test at any of the laboratories on the list. You will have to contact them individually to obtain their latest prices.

Outcome of the Tests - Although it is impossible to accurately predict the overall worth of a device from a small amount of testing, we have established some guidelines which will help you determine whether the test results with your device should be considered encouraging. These values have been chosen to assure both of us that a real difference in fuel economy exists and that we are not seeing only the variability in the results. The table below presents the minimum number of cars that need to be tested for varying degrees of fuel economy improvement assuming a typical amount of variability in fuel economy measurement. For a minimum test plan which was conducted on a fleet of two cars, the average improvement should be at least 8%. If at least an 8% difference in average fuel economy can be shown, then we would be able to say statistically at the 80% confidence level that there is a real improvement. Similarly, we would expect a minimum of 5% improvement for a fleet of 5 vehicles. Test results which display a significant increase in emission levels should be reason for concern.

Minimum Fuel Economy Improvements versus Size of Test Fleet

Fleet Size	Average Improvement Required
2	8%
3	7%
4	6%
5	5%
10	4%
25	2%

Once we receive your application, it will be reviewed to determine if it meets the requirements listed in the format. If your application is not complete, we will ask you to submit further information or data. After any missing information has been submitted, your application will be reconsidered and once it meets our requirements, you will be advised of our decision whether or not EPA will perform any confirmatory testing. Any EPA testing will be performed at no cost to you and you will be given the opportunity to concur with our test plan. Once this testing is complete, an evaluation report will be written. If no further testing is required, the report will be written solely on the basis of the test data submitted and our engineering analysis.

Despite the current backlog and increasing number of inquiries regarding fuel economy device evaluations, the EPA intends to process your application in as expeditious a manner as possible. We have established a goal of twelve weeks from the receipt of a complete application to the announcement of our report. The attainment of this objective requires very precise scheduling and we are depending on the applicant to respond promptly to any questions or to submit any requested data. Failure to respond in a timely manner will unduly delay the process. In the extreme case, we may consider lack of response as a withdrawl of the application.

I hope the information above and that contained in the enclosed documents will aid you in the preparation of an acceptable application for an EPA evaluation of your device. I will be your contact with EPA during this process and any subsequent EPA evaluation. My address is EPA, Motor Vehicle Emission Laboratory, 2565 Plymouth Road, Ann Arbor, Michigan, 48105. The telephone number is (313) 668-4299. Please contact me if you have any questions or require any further information.

Sincerely,

Merrill W. Korth,
Device Evaluation Coordinator
Emission Control Technology Division

Enclosure

ECTD:TEB:KORTH:cd:X259:2565PlymouthRd:AnnArborMi48105:12/17/80

MWK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ANN ARBOR, MICHIGAN 48105

Attachment B

OFFICE OF
AIR, NOISE AND RADIATION

January 21, 1981

Mr. Jack M. Helenowski, President
Pegusus Enterprises
6835 North Algonquin Avenue
Chicago, IL 60646

Dear Mr. Helenowski:

On December 17, 1980, I sent to you a package of information describing the process by which you could apply for an EPA evaluation of your device, the Platinum Gasaver. Shortly thereafter, I received one of your devices in the mail; but as yet, I have not received an application for evaluation from you.

In order for the EPA to conduct an evaluation of your device, we must have an application prepared according to the application format as described in the information I sent to you on December 17. EPA is not taking any action on your device at this time.

Your device is being returned to you. If EPA evaluates your device at a later date, there will be no problem in procuring the necessary units for our tests.

Please let me know if you plan to apply for an EPA evaluation.

Sincerely,

Merrill W. Korth

Merrill W. Korth
Senior Project Manager
Test and Evaluation Branch

cc: P. Hutchins

PEGUSUS ENTERPRISES MARKETING GROUP

6835 NORTH ALGONQUIN AVENUE
CHICAGO, ILLINOIS 60646

16 December 1980

Environmental Protection Agency
Attn: Fuel Economy Evaluation Branch
2565 Plymouth Road
Ann Arbor, Michigan 48105

Gentlemen:

Included you will find a "Gasaver" device (the included model is designed to work optimally in an automobile which averages 15 mpg) for which I have distribution rights in the greater Chicago area to include sales to the Federal Government, its agencies, and departments. As the attached articles from Design News, Easy Reader, and The Boston Phoenix describe the process through which this device can attain approximately a 20% mileage increase on a multitude of fuels, I will not attempt to repeat the same facts to you in this letter. What I do desire is to have the process tested by your field and laboratory facilities so that I may eventually market this device to the General Service Administration and the Defence Procurement Agency. I am confident that your evaluation will prove the claims found in the attached articles to be valid.

I have taken the liberty of also asking the U.S. Army Tank and Automobile Command in Warren, Michigan to conduct a similar test, but of course all my future prospects depend upon your agency's evaluation of my product's worth as a fuel saving device and non-pollutant.

Included also is a copy of my manufacturer's basic statement of our product's goals and success in obtaining these goals. I would also like to point out that this process is already being used by the Armed Forces of the State of Israel to extend the range of their Armoured Wheeled and Track Vehicles as well as their low performance aircraft, namely helicopters. Both Martin Marietta Corporation and the Transportation Management Corporation have tested our product with very encouraging results.

PEGUSUS ENTERPRISES MARKETING GROUP

6935 NORTH ALGONQUIN AVENUE
CHICAGO, ILLINOIS 60648

You will find me readily available to answer any questions or to provide additional supplies should your tests require the same. I may be reached by writing at the following address:

Pegusus Enterprises
Marketing Group
P.O. Box 59126
Chicago, Illinois 60659

or by telephoning (312) 775-9359
(312) 774-0763
(312) 774-0784

Sincerely,

Jacek M. Helenowski
President
Pegusus Enterprises

Jacek Helenowski

JMH/tkh

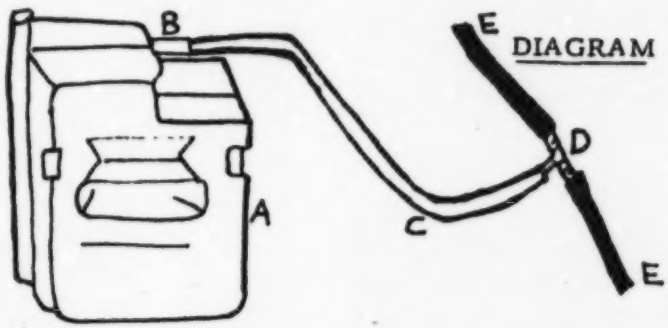
Incl: 5 Articles

NATIONAL FUELSAVER CORP.

PACKING CONTENTS and INSTALLATION INSTRUCTIONS

1 GASAVER INSTRUMENT
1 Small plastic "T" connector
1 12 ounce bottle of GASAVER SOLUTION (This 12 ounce bottle contains the same amount of platinum, 6,000 miles worth, that is contained in each of the 1 ounce bottles of GASAVER CONCENTRATE.)
1 1 ounce bottle of GASAVER CONCENTRATE
1 Plastic, self-locking, releasable, strap
1 6 foot length of rubber tubing
1 Funnel

A. GASAVER INSTRUMENT
B. HORIZONTAL OPENING
C. GASAVER TUBING
D. "T" CONNECTOR
E. VACUUM LINE OF VEHICLE



1. Pour the 12 ounce bottle of GASAVER SOLUTION into the GASAVER INSTRUMENT very slowly to avoid spilling. (The horizontal opening "B" looks like it is closed. It is open to a diameter of less than 1/200 inch, which is proper.)
2. Find a safe and convenient location for the GASAVER INSTRUMENT under the hood of your car. Keep it away from the hot parts of the engine and exhaust. Also avoid sharp metal corners and the battery. Usually there is a suitable spot behind a headlight.
3. Secure the GASAVER INSTRUMENT. We have provided a self-locking strap.
4. Locate a rubber vaccum line leading out of the base of the carburetor. Usually the one to the choke or the air cleaner is best. Cut this tubing at a convenient spot and insert two legs of the plastic "T".
5. Connect one end of the GASAVER TUBING to the third leg of the "T", and the other end to the Horizontal opening "B" on the instrument.
6. Race engine slightly to see bubbling in the GASAVER SOLUTION. A bubbling rate of 7 to 15 bubbles per 10 seconds is best. If bubbling rate is otherwise contact your supplier.
7. Your platinum GASAVER is now fully operational, although it may take from 200 to 1,800 miles to become fully effective. After each 6,000 miles of driving the platinum GASAVER SOLUTION will be down only one ounce, but all the platinum will have been used. Therefore, after each 6,000 miles of driving it is necessary to add one ounce of platinum GASAVER CONCENTRATE to the instrument to keep this process operational.

DISTRIBUTED BY:
PEGUSUS ENTERPRISES
Marketing Group
P.O. Box 59126
Chicago, Illinois 60659

PLATINUM GASAVER TEST RESULTS

VEHICLE NUMBER	MILES PER GALLON WITHOUT GASAVER	MILES PER GALLON WITH GASAVER	PER CENT IMPROVEMENT WITH GASAVER
59	12.0	17.8	48.3%
63	11.3	16.6	46.9%
53	14.1	20.7	46.8%
51	13.0	18.8	44.6%
56	12.2	17.1	40.2%
64	9.6	13.3	38.5%
60	13.3	17.9	34.6%
55	9.8	13.1	33.7%
68	14.3	18.4	28.7%
50	10.8	13.9	28.7%
62	14.1	17.6	24.8%
66	15.8	17.5	10.8%
57	14.4	15.9	10.4%
54	13.1	14.0	6.9%
65	12.9	11.3	-12.4%
AVERAGE	12.7	16.3	28.3%

Installation of the PLATINUM GASAVER, manufactured by NATIONAL FUELSAVER CORPORATION of Brookline, Massachusetts, was performed on 4/22/80 on the above numbered fifteen 1980 Chevrolet station wagons with 305 cubic inch V-8 engines (odometer readings between 15,070 and 38,784), owned and operated by TRANSPORTATION MANAGEMENT CORPORATION of Medford, Massachusetts.

The "Miles per gallon with GASAVER" column shows the improvement starting on 5/9/80, by which date each of the cars had been fully initialized with the platinum process. The test period ended on 5/26/80. These test results are purely a function of miles travelled and fuel consumed. Other variables which may have influenced this study have not been defined.

We, the undersigned, officers of the two corporations (Transportation Management Corp. of Medford, Mass. and National FuelSaver Corp. of Brookline, Mass.) participating in the above study do hereby attest to the accuracy of the data contained herein and do agree that it may be made available for public dissemination, but only in its entirety.

Richard Zimmerman, President
Transportation Management Corp.

Ross G. Honig, C.P.A., V.P. & Controller
Transportation Management Corp.

Stephen A. Gordon, Fleet Manager
National FuelSaver Corp., 667 Washington St., Brookline, Mass. 02146 TEL: 617/731-4444

Date: June 18, 1980

NATIONAL FUELSAVER CORP.

667 WASHINGTON ST. BROOKLINE, MASS 02146 · TEL 617/731-4444

Response to the national publicity on our platinum GASAVER process has been overwhelming. It is currently in use on thousands of vehicles across the country with a success rate of better than 90%.

The GASAVER operates on the same chemical principle that oil refineries use to reduce their fuel consumption dramatically - having platinum present where fuel is burned. Combustion is much more complete and the oil companies are saving billions of dollars annually.

We have adapted this principle to the automotive engine. Our process introduces microscopic quantities of platinum into the engine along with the fuel and air while you drive. With the platinum present in the combustion chamber of your car, a higher percentage of each gallon of fuel will be burned, resulting in a significant increase in miles per gallon.

Enclosed with this letter are reprints from the EASY READER (Southern California), the BOSTON PHOENIX, and DESIGN NEWS (a national engineering magazine). These articles describe the GASAVER platinum process. As you can see the equipment has been improved and simplified so that installation time should not exceed fifteen minutes.

The GASAVER is highly effective on all types of vehicles - domestic or foreign, old or new. It is the only platinum technology that works with leaded or unleaded gasoline, or diesel fuel. The GASAVER process has not yet received the authorization of any auto maker for new car use. Therefore, if your car is still under warranty, be sure to consult your dealer to insure that the installation of the GASAVER will not jeopardize your warranty in any way. It is also important to be aware that your vehicle may have to be driven up to 1,800 miles before the platinum process becomes fully effective.

The vast majority of our customers are getting 3 to 4 more miles per gallon. A few are getting as much as 6 to 8 more miles per gallon. And a small group are not saving at all; in which case we refund their money. We are constantly working to perfect our process. Therefore, we ask our customers to help us improve our process by reporting back to us on their experience with the platinum GASAVER.

A 24,000 mile supply of the platinum costs $119. - and includes the equipment for two vehicles at no extra cost. (A 12,000 mile supply costs $69. - and includes the equipment for one car at no extra cost.) Also included is an unconditional money-back guarantee. If you would like to improve your gas mileage by 20 to 30%, simply mail us your check or Mastercharge or VISA information, or call us with your charge card information or C. O. D. instructions. We pay all shipping charges.

Should you require further information on our platinum GASAVER for engines or on our platinum FUELSAVER for industrial boilers, please call us.

Sincerely,

Joel Robinson, Technical Director

Mass. users add 5% tax.

Metering device 'replaces' catalytic converter

Platinum solution simultaneously reduces fuel consumption and pollutants

David J. Bak, East Coast Editor

Brookline, MA—In light of the ever-threatening energy crisis and ongoing battle against pollution, the catalytic converter seems to offer mixed blessings. True, it cuts down on pollution, but due to the added backpressure it introduces in the car's exhaust line, it also lowers gas mileage. And since the platinum catalyst is deactivated in a lead environment, more expensive unleaded gases must be used.

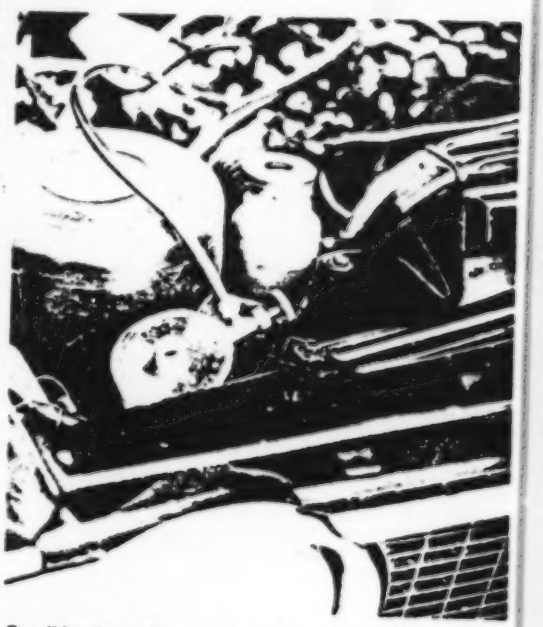
An improvement over the catalytic converter lies in a simple metering device invented by Joel Robinson, technical director of National FuelSaver Corp. Although it operates on the same chemistry as the catalytic converter, the new device reduces both pollution and fuel consumption. Furthermore, it allows the use of either leaded or unleaded gasoline.

Called the "Gasaver", the device is similar to the unit invented for furnace applications (See Design News, 5-8-78, p. 82). Its major component is a cylinder partially filled with a nonflammable, proprietary platinum solution. Penetrating the top of the cylinder is a tube open to the atmosphere and extending into the solution. A brass globe valve and additional tubing connect the air space in the top of the cylinder to the intake manifold.

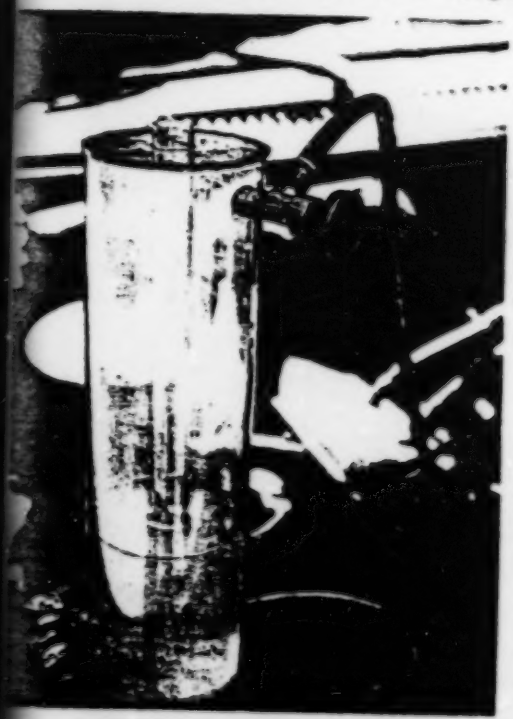
When the globe valve is cracked open, the engine manifold draws a portion of its air from the atmosphere through the catalytic solution. The platinum entrained in the air bubbles mixes with the gas, causing more complete combustion. By reducing the amount of unburned hydrocarbons and carbon monoxide, more BTUs are drawn from the same gallon of fuel and less pollutants are emitted.

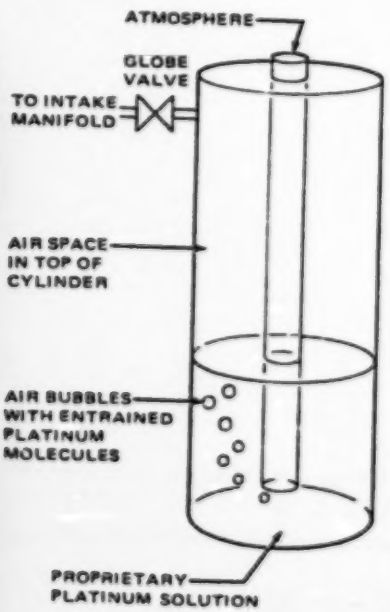
According to Robinson, the unit increases the number of miles per gallon by about 20%, while preliminary estimates of the solution's cost run about 4 to 5% of the new reduced gasoline bill. Finally, because the physical quantities are so small, less platinum will probably be used in the lifetime of an automobile equipped with a "Gasaver".

Additional details . . . Contact Joel Robinson, National FuelSaver Corp., 667 Washington St., Brookline, MA 02146, 617-731-4444.



Small in size, "Gasaver" easily fits into any open space in engine compartment.





Simple in construction, gas saving device consists of cylinder, globe valve, tubing and solution.

Editor's Note: During a recent, well-deserved vacation, I had a chance to test the "Gasaver" in my own car. On the open highway up to Canada, I ran two separate mileage tests without the device, averaging 28 miles/gal. Coming home I used the instrument to get a steady 32 miles/gal—a 14% increase. Subsequent tests have yielded readings up to 34 miles/gal. This is consistent with Robinson's claim that once the valve surfaces become coated with a layer of platinum molecules, mileage readings should increase by about 20%. Due to the minute quantities of platinum being metered into the engine, this process takes a while. This is the reason for the slightly lower initial readings.

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Easy Reader

Reflections from the South Bay

Volume IX, Number 49 — August 16, 1979

Rick Danko • Fireside Theater • Volleyball • Writing, Photo Contest

Believe it or not: a fuel saver that really works

by Frank Wicks

"The biggest problem in our business is the 10,000 people out there who are selling water-injection systems," Joel Robinson says of the fuel-saving industry.

Robinson, a Massachusetts resident and inventor of a legitimate fuel-saving device called, appropriately enough, "Gasaver," complains that the gimmick-type gas-saving devices that are on the market make it difficult for those who make genuine breakthroughs in this field.

"There are 101 water-injection systems around, but they're all phonies. Can you tell me why water would help combustion? Water puts fire out; it doesn't help it to burn better," Robinson says.

Another gas-saving gimmick that recently surfaced involved a man who claimed that for 10 dollars he would install a device which, he said, would increase mileage by 25 percent. Unfortunately, it turned out that all he would do was attach a rubber cord to the gas pedal and anchor it below the dashboard, thus making it more difficult to press down the accelerator.

It's not too difficult to believe Robinson when he says, "Whenever we start talking to anyone about our method, we have to give them 10 minutes to stop laughing before we can explain why it works."

Actually, the Gasaver operates on a principle long recognized by chemists and engineers. However, it wasn't until recently that Robinson's invention made it possible to successfully apply this principle to the automobile.

When gasoline is burned in the standard internal-combustion engine, usually only about 70 percent of it will burn effectively. The remaining 30 percent, which is lost, contains two basic items: hydrocarbons (gas vapor that did not burn), and carbon monoxide (partially burned gasoline).

In 1974, automobile manufacturers began installing catalytic converters on all new cars. The catalytic converter, working on the same principle as Robinson's Gasaver, burns the hydrocarbons and carbon monoxide by bringing them into contact with platinum at combustion temperatures.

This process promotes a more thorough and complete burning, thus producing fewer pollutants. Unfortunately, this process takes place outside of the engine, and the energy produced is lost; actually, it robs the engine of energy because of the "backpressure" it produces.

Gasaver's West Coast distributor, Jack Leopold of Torrance, explained how the Gasaver works. "The Gasaver injects a platinum vapor directly into the engine where the catalytic action of the platinum promotes faster and more complete combustion — with 15 to 25 percent savings in gasoline.

Robinson added, "We're not doing anything new chemically; we're simply changing the location of where the process occurs."

The platinum-injection system coats the engine surfaces in a gradual process. The longer the process is continued, the less energy is lost in the exhaust. Although results can be seen almost immediately, Leopold says the process won't reach its full capacity until after about 1800 miles.

Robinson, a graduate of Boston University as an industrial engineer who has successfully applied the catalytic process to oil-burning furnaces in industrial facilities, says chemists have been trying to introduce platinum into the engine for years.

"Theoretically," he says, "there are three ways to use the platinum. One is to paint the surfaces with it like they do with the catalytic converter. However, it is not possible to coat engine parts. The second way is to add it to gas, but the chemists haven't figured how to do that yet. In our method, we bring the platinum into the engine with the incoming air.

"If either of the first two methods were possible, it would demand the use of unleaded gas. Lead immediately destroys the effect of platinum, and that's why catalytic converters need unleaded gas. But our process can be retrofitted to old cars and can use leaded gas."

Dr. Herbert Kaesz, professor of chemistry at UCLA, confirmed the fact that the Gasaver is based on established chemical principles. "The idea is a sound one. I'm just surprised that they are the only ones on the market with it . . . I'm going to put one on my car."

Now that a gallon of gas has reached a dollar in price, the Gasaver might seem like a logical replacement for the catalytic converter. Enough of the solution to last for 24,000 miles sells for $119. However, neither Robinson nor Leopold profess any desire in challenging the powers that be.

"We are not at all interested in giving the auto companies, the oil companies, or the platinum companies that kind of fight. They like the catalytic converter, and we're too small to get into that kind of competition," Robinson explained.

Robinson says that while the general public may be hesitant to try out the device, those people in the technical community have been his best customers. "So far, most of our customers have been engineers because they understand the principles behind it."

On a recent trip to San Francisco, *Easy Reader* staff member Robert Triptow took the opportunity to test the Gasaver on his 1966 Volkswagen Bug.

Driving an unloaded car up Highway 5 without the device, he used two tankfuls of gas and averaged 27 miles per gallon.

On his return trip, Triptow took the longer route down Highway 101. With the device attached and the car loaded with belongings he had picked up, he used just under two tankfuls and averaged 32 miles per gallon.

Although his mileage increased by over 18 percent, according to Gasaver's promoters, his future mileage should increase even more as the engine parts gradually become coated with the platinum molecules.

Further information concerning the Gasaver product may be obtained by contacting National FuelSaver Corp., 667 Washington Street, Brookline, Mass. 02146, Tel: 617/731-4444.

Gas-saving gadgets
Automotive
Body work and a diesel update

THE BOSTON Phoenix

Relocating the catalyst

Putting the platinum before the carb

by Paul D. Lehrman

Every so often, another miracle gadget that promises to cut your gasoline bills in half shows up in the back pages of your favorite picture magazine or flashes a toll-free number at you during *Rhoda* reruns. These expensive toys eventually get dumped onto the front pages of *Consumer Reports*, where they are invariably characterized as useless, so it's nice to find a company that not only considers that kind of marketing "cheap," but also makes a product that gives every indication that it can deliver.

Using platinum as a catalyst for increased efficiency in combustion is no longer a revolutionary idea, but applications of the principle that will save consumers money seem to be farthest from the minds of those who run major oil companies and automobile manufacturers. However, for Joel Robinson, Technical Director of National FuelSaver Corporation, it's the first thing.

The product that Robinson and his tiny staff have developed, which is called the Gasaver, is a simple system that comprises a special plastic jar, a T-connector, six feet of 5/16 inch hose, a 12-ounce bottle of platinum solution that gets poured into the jar, and a one-ounce bottle of concentrated solution to "recharge" the system after about 5000 miles. Its purpose is to introduce platinum into your car's engine in such a way that the metal coats the cylinders and pistons, allowing your engine to burn fuel more completely and efficiently. If Robinson's figures are right, soon after his system is installed in an automobile, its polluting emissions are reduced by better than 10 percent and gas mileage is improved by 15 to 25 percent.

Robinson, who received a bachelor's degree in industrial engineering from BU in 1964, has been working on his system for two-and-a-half years. His earl professional experience included working as a manufacturer's representative overseas, selling fuel additives that were designed to improve the efficiency of refineries, steamship and other heavy-industry boilers. The chemicals he sold were expensive, and the process by which they were introduced and maintained in the systems was difficult and costly. He looked around for ways to improve the situation, and during a phone conversation with a friend who was a chemist for Exxon, heard the word "platinum." "From that point on," he says, "I was on my own."

After proving that the platinum injection process worked on boilers as well as engines, Robinson decided to concentrate his attentions in the automotive world and developed the Gasaver system. The first prototype had been built in April of 1978. The following January, a trade magazine published a description of the system and some preliminary test results that confirmed Robinson's claim of 20 percent mileage improvement. He subsequently received some 2000 inquiries from engineers and mechanics all over the country. Out of that group, he managed to talk 500 into spending $40 each on a 20,000-mile supply of the platinum solution, with the hardware lent at no charge. With these first 500 customers, National FuelSaver was able to start its first production run, in April of '79.

Gasaver is now in its third production model; as Robinson makes improvements in the hardware, he replaces all the units in the field. Improvements have been made in the solution, too, which at first tended to freeze at temperatures below 25 degrees Fahrenheit. Changes incorporated last October have solved this problem.

The chemical principle behind Robinson's system is simple and, in application, far from unique. The plastic container that holds the platinum solution is strapped inside the engine compartment wherever practical. The bottle has an air-intake port and an outlet with a hose coming from it, which the user splices into any vacuum line that feeds all the engine's cylinders. The vacuum in the line sucks air through the plastic bottle, causing it to percolate through the platinum solution and exit through the hose as air carrying minute bits of the platinum compound. From there, the air is passed into the engine block where it coats the cylinder head and pistons. It doesn't stay there forever, so it has to be replenished at a measured rate.

Once inside the engine, the catalytic action of the platinum reduces the heat and time necessary for the gasoline to burn itself completely down to carbon dioxide and water. Given that the time that the gasoline has in the cylinder and the temperature of the engine are both unchanged, the result is less carbon monoxide and unburned hydrocarbon residue and more power per unit of fuel.

Why haven't others thought of this? Well, others have, but for different uses. The catalytic convertor, a muffler coated inside with platinum, has been compulsory on all new cars since 1975; it is another application of the same technology. The convertor is designed to reduce hydrocarbon emissions by causing unburned gasoline to burn before it can be carried into the atmosphere as exhaust. However, because the convertor does its thing after the engine does its, the energy (heat and pressure) produced in it is wasted, while the engine is actually forced to work *harder* to counteract the back-pressure that the burning and expanding gases produce in the exhaust system. The catalytic convertor will work only in the presence of unleaded fuel, as lead passing through the exhaust deactivates the platinum in the muffler. Unleaded fuel is more expensive and energy-consuming to produce and it yields fewer BTUs per gallon than regular leaded gasoline. Robinson's Gasaver *will* work in the presence of leaded gasoline. Robinson also maintains that his system uses the precious metal much more efficiently, and that the amount of platinum a catalytic convertor uses up in 40,000 or 50,000 miles will keep the Gasaver going for 150,000 miles.

Finally, scientists at the Brookhaven National Laboratory reportedly developed a technique for coating engine parts themselves with platinum during manufacture and brought the idea to General Motors. The platinum was not self-replenishing, however, and the report is that it all disappeared after 100 miles of engine use.

(Continued on back page)

Other companies have made attempts at dissolving the platinum in the gasoline itself, but Robinson claims that it just will not work — that his consultants have concluded the substances are simply incompatible. The Gasaver solution is the first successful attempt at injecting platinum into the air stream. The makeup of the solution itself is still a well-kept secret, as the patent is still pending.

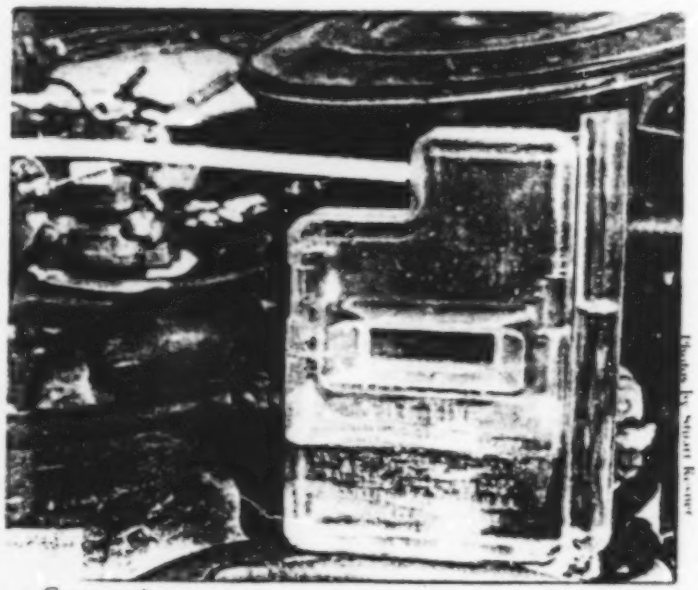
Since his first production run, last April, Robinson has sold about 3,000 Gasaver systems at the retail level, getting the message across by way of magazine articles and advertisements in alternative-energy and trade magazines. He refuses to advertise on UHF television, maintaining that it would render his product indistinguishable from others he says don't work and that it wouldn't be an effective way to get potential customers to trust him.

To wholesalers, however, business has been even better; his figures indicate that nearly 4000 units have been sold.

Felix Turley of Hyde Park owns two Dodge vans. Even after numerous trips to his dealer, he was getting only eight miles per gallon out of his new one, a '79 with a small V-8 engine, though the EPA sticker said he should be getting 14. He heard Robinson discuss Gasaver last spring on a radio talk show, and subsequently visited National FuelSaver's Brookline office.

With Robinson's unit installed, Turley's van delivered just under 13 mpg, an increase of nearly 60 percent, until the day he

FuelSaver's Joel Robinson at work



a Gasaver device

opened his engine compartment and discovered that the jar was gone. "I didn't support it on the bottom — just had it strapped to the sides — and I guess it just jostled its way out," he said. "The hose and the top of the thing were still there, but the rest of the jar and all the solution were lying on a street somewhere." He went back to the company to buy another unit, but when Robinson looked at his file, he told Turley to keep his money and go home and wait for the mail; Robinson had just taken delivery of a production run of an improved version of the bottle, and had sent one out along with a 5000-mile platinum supply to every one of his customers.

On February 1 of this year Robinson was forced by the skyrocketing cost of all precious metals, to raise the price of the Gasaver. 24 thousand miles worth of the solution now costs $119. The company gives a money-back, no-questions-asked guarantee, and still lends the equipment free. A quick calculation shows that in a car that gets 15 mpg, at $1.30 a gallon, the 20 percent saving that Robinson considers average works out to a net savings of better than $297 over 24,000 miles. And that's if the price of gasoline doesn't go up.

The Gasaver is available directly from the factory as well as from distributors and dealers throughout the country.

For more information contact: National FuelSaver Corp., 667 Washington St., Brookline, Mass. 02146. Tel. 617/731-4444.

Attachment C

PEGUSUS ENTERPRISES MARKETING GROUP

6835 NORTH ALGONQUIN AVENUE
CHICAGO, ILLINOIS 60646

Febuary 1, 1981

MR. MERRILL W. KORTH,
DEVICE EVALUATION COORDINATOR
EMISSION CONTROL TECHNOLOGY DIVISION

Dear Mr. Korth

Here is the official application format under Section 511 for the PLATINUM GASAVER.

1. Title: Application for evaluation of a Fuel Economy Retrofit Device Under Section 511 of the Motor Vehicle Information and Cost Savings Act.

2. Marketing Identification of the Device:

   Platinum Gasaver

3. Identification of Inventor and/or Patent Protection:

   a) inventor: Joel Robinson
   home address: 501 Voylston St.
   Brookline,Mass. 02146

   b) patent still pending

4. Identification of device Manufacturer:

   National Fuelsaver Corp.
   667 Washington St.,
   Brookline, Mass. 02146

5. Identification of Manufacturing Organization's Principals:

   Joel Robinson __

   Technical Director and owner

PEGUSUS ENTERPRISES MARKETING GROUP

6835 NORTH ALGONQUIN AVENUE
CHICAGO, ILLINOIS 60646

6. Identification of Organization Making Application:

SEE ABOVE

7. Identification of Applying Organization's Principals:

Jacek Helenowski -- President
The above mentioned will represent the organization in communications with the EPA.

8. Description of Device:

a. Purpose of the device:
To improve mileage at least 20% and to cut down on harmful polluting emissions.

b. Theory of Operation:

See articles sent 16. Dec.80

c. Detailed Description of Construction and Operation.

See articles sent 16.Dec.80

9. Applicability of the device;

Is applicable to all automobiles and/or all trucks with or without turbocharger, fuel-injection or carburator. It works with both leaded and unleaded fuel and is complementary with any improvement gained by improved lubrication.

The different model numbers are:

SU-1 for gasoline powered automobiles that average 9m.p.g. or above before the device is installed.

SU-2 for diesel powered automobiles that average 9m.p.g. or above before the device is installed

SU-3 for gasoline powered trucks that average 6-8 m.p.g. before the device is installed

SU-4 for diesel powered trucks that average 6-8 m.p.g. before the device is installed

PEGUSUS ENTERPRISES MARKETING GROUP

6835 NORTH ALGONQUIN AVENUE
CHICAGO, ILLINOIS 60646

SU-5 for diesel powered trucks that average 5 m.p.g. before the device is installed

10. Device Installation:

One full page of the articles sent 16.Dec.80 explained the installation procedure.

11. Device Operation:

Once device is installed the operator must add every 6,000 miles one bottle of GASAVER CONCENTRATE.

12. Device Maintenance:

NONE

13. Effects on Vehicle Emissions(non-regulated)

At the absolute most less than ¼ of one gram of Platinum will be admitted to the atmosphere during one year (12,000 miles) of driving.

14. Effects on Vehicle Safety:

This device does not endanger the automobile or its occupants or persons or property in close proximity to the automobile.

15. Test Results:

See articles sent 16.Dec.80
In addition to the articles mentioned above I have included in this application a copy of the results of ~~the~~ Martin Marietta Corp. which tested the device for 113 hours to obtain fewer hydrocarbons emitted and fuel savings of 34.7%.

Sincerely,

Jacek Helenowski

Jacek Helenowski
President
Pegusus Enterprises

Enclosure: 2

MARTIN MARIETTA - MICHOUD

Test for Total Hydrocarbons

8-28-79

Willie Janicek

3663

HC output from Hyster Lift Truck (NASA 095675)

Total hydrocarbon 58.0 ppm AV at start of test.

Total hydrocarbon 51.5 ppm AV after 113 hours use time.

0.98 hours/gallon start of test.

1.32 hours/gallon average after 113 hours use time.

34.7 % Savings.

R. Moreau

R. D. Marrs

3726

Dept. Work Form 3700-16

QUALITY LABORATORIES

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ANN ARBOR, MICHIGAN 48105

Attachment D

March 11, 1981

OFFICE OF
AIR, NOISE AND RADIATION

Mr. Jacek Helenowski, President
Pegusus Enterprises
6835 North Algonquin Ave.
Chicago, IL 60646

Dear Mr. Helenowski:

We have reviewed your application for an evaluation of the Platinum Gasaver using the information provided. Before your device can be fully evaluated by EPA, we require the following information:

1. A copy of the patent application which includes the patent application number.

2. The composition of the platinum compound and any other substances in the Platinum Gasaver concentrate which may be considered toxic.

3. Data from exhaust emission tests on a minimum of two vehicles*. Duplicate tests are required both before and after the device is installed. This is a total of at least eight hot-start tests. These tests must be performed at an independent laboratory recognized by EPA. I am enclosing a list of these laboratories and documents defining our policy on data obtained at such private laboratories.

4. A letter from the manufacturer of the Platinum Gasaver indicating that your company is authorized to act on his behalf in applying for a 511 evaluation.

In order to maintain our overall schedule for evaluating fuel economy retrofit devices, we will need to know when we can expect the above information. Please contact me by March 23 with your estimate. We expect that the test results and other information will be submitted to us by April 30, 1981.

---

*The data you have furnished is inconclusive and is not sufficient to allow us to evaluate the Platinum Gasaver. The Federal Test Procedure and Highway Fuel Economy Test are the primary tests we recognize in evaluating vehicle fuel economy.

During our review of your submission, we also noticed a magazine advertisement which stated, "This product is marketed with the authority of the EPA". Such a statement is not based on fact since EPA has not authorized or approved the Platinum Gasaver. I suggest that your delete any such references to EPA from your advertising until after our evaluation has been completed. If you have any questions or require further information, please contact me.

Sincerely

Merrill W Korth

Merrill W. Korth, Device Evaluation Coordinator
Test and Evaluation Branch

Enclosures

cc. J. Shelton

Attachment E

March 11, 1981

Mr. Jack Helenowski, President
Pagusus Enterprises
6835 North Algonquin Avenue
Chicago, IL 60646

Dear Mr. Helenowski:

Although you have already applied for an EPA evaluation of the Pla tinum Casaver, I am enclosing a complete set of our policy documents to assure that there is a clear understanding of the EPA requirements for private laboratory data. A separate letter is also enclosed, discussing our preliminary evaluation of your application. The Environmental Protection Agency is charged by Congessional mandate to evaluate fuel economy and emission control devices. While the EPA does not actually "approve" such devices, it does conduct evaluations for the purpose of increasing the common knowledge in the area. For this reason, the outcome of any testing by EPA becomes public information. It is this information which may be cited although no claims can be made that any EPA findings constitute "approval" of the device or system.

Enclosed with this letter is a packet of materials which you will need to apply for an EPA evaluation of your device. This packet consists of 1) an application format, 2) a document entitled "EPA Retrofit and Emission Control Device Evaluation Test Policy" and 3) a copy of the applicable Federal Regulations.

In order for the EPA to conduct an evaluation of your device, we must have an application. Once you have reviewed all the documents in the packet, you should prepare an application in accordance with the guidelines of the application format. A critical part of the application is the substantiating test data. The required test results will have to be obtained at a laboratory of your choice. Such testing would be conducted at your expense. A list of laboratories which are known to have the equipment and personnel to perform acceptable tests has been included in the enclosed packet. If you desire, we can assist in the development of a satisfactory test plan.

Once we receive your application, it will be reviewed to determine if it meets the requirements listed in the format. If so, you will be advised of our decision whether or not EPA will perform any confirmatory testing. Any EPA testing will be performed at no cost to you, and you will be given the opportunity to concur with our test plan. Once this testing is complete, an evalation report will be written solely on the basis of the test data submitted and our engineering analysis.

RCTD:TEB;KORTH:dks:X259:2565PlymouthRd:3/11/81:BALDRI:JobX

There are, however, several aspects concerning testing at an outside laboratory which I would like to bring to your attention at this time:

Minimum Test Requirements - Although different types of devices may require a more complex test plan, the minimum we require involves two vehicles and two test sequences run in duplicate. The vehicles should be selected from those listed in Table 1; if possible. Each vehicle is to be set to manufacturer's tune-up specifications for the baseline tests.

The tests are conducted in a "back-to-back" manner, once with the vehicle in baseline condition and again with the device installed with no vehicle adjustments between tests. If installation of the device also involves some adjustments, e.g. timing, fuel-air mixture, choke or idle speed, another test sequence with only these adjustments should be inserted between the first and last. Also as a minimum, the test sequence shall consist of a hot-start LA-4 portion (bags 1 and 2) of the Federal Test Procedure (FTP) and a Highway Fuel Economy Test (HFET). The details of these tests are contained in the enclosed packet. Although only a hot-start FTP is required to minimize the costs to you, you are encouraged to have the entire cold-start test performed since any testing and evaluation performed by EPA will be based on the complete FTP and you may wish to know how a vehicle with your device performs over this official test. As a final requirement, the personnel of the outside laboratory you select should perform every element of your test plan. This includes preparation of the test vehicle, adjustment of parameters and installation of the device.

Submission of Data - We require that all test data obtained from the outside laboratories in support of your application be submitted to us. This includes any results you have which were declared void or invalid by the laboratory. We also ask that you notify us of the laboratory you have chosen, when testing is scheduled to begin, what tests you have decided to conduct, allow us to maintain contact with the laboratory during the course of the testing, and allow the test laboratory to directly answer any questions at any time about the test program.

Cost of the Testing - The cost of the minimum test plan (two vehicles, two test sequences in duplicate) described above should be less than $2000 per vehicle and less than $4000 for the total test at any of the laboratories on the list. You will have to contact them individually to obtain their latest prices.

Outcome of the Tests - Although it is impossible to accurately predict the overall worth of a device from a small amount of testing, we have established some guidelines which will help you determine whether the test results with your device should be considered encouraging. These values have been chosen to assure both of us that a real difference in fuel economy exists and that we are not seeing only the variability in the results. The table below presents the minimum number of cars that need to be tested for varying degrees of fuel economy improvement assuming a typical amount of variability in fuel economy measurement.

For a minimum test plan which was conducted on a fleet of two cars, the average improvement should be at least 8%. If at least an 8% difference in average fuel economy can be shown, then we would be able to say stastically at the 80% confidence level that there is a real improvement.

Similarly, we would expect a minimum of 5% improvement for a fleet of 5 vehicles. Test results which display a significant increase in emission levels should be reason for concern.

Minimum Fuel Economy Improvements versus Size of Test Fleet

Fleet Size	Average Improvement Required
2	8%
3	7%
4	6%
5	5%
10	4%
25	2%

Once we receive your application, it will be reviewed to determine if it meets the requirements listed in the format. If your application is not complete, we will ask you to submit further information or data. After any missing information has been submitted, your application will be reconsidered and once it meets our requirements, you will be advised of our decision whether or not EPA will perform any confirmatory testing. Any EPA testing will be performed at no cost to you and you will be given the opportunity to concur with our test plan. Once this testing is complete, an evaluation report will be written. If no further testing is required, the report will be written solely on the basis of the test data submitted and our engineering analysis.

Despite the current backlog and increasing number of inquiries regarding fuel economy device evaluations, the EPA intends to process your application in as expeditious a manner as possible. We have established a goal of twelve weeks from the receipt of a complete application to the announcement of our report. The attainment of this objective requires very precise scheduling and we are depending on the applicant to respond promptly to any questions or to submit any requested data. Failure to respond in a timely manner will unduly delay the process. In the extreme case, we may consider lack of response as a withdrawal of the application.

I hope the information above and that contained in the enclosed documents will aid you in the preparation of an acceptable application for an EPA evaluation of your device. I will be your contact with EPA during this process and any subsequent EPA evaluation. My address is EPA, Motor Vehicle Emission Laboratory, 2565 Plymouth Road, Ann Arbor, Michigan, 48105. The telephone number is (313) 668-4200. Please contact me if you have any questions or require any further information.

Sincerely,

Merrill W. Korth
Device Evaluation Coordinator
Test and Evaluation Branch

Table 1

Suggested Test Vehicle Engines for 511 Applicants

The following engines are suggested as suitable candidates for the application of a 511 process or device. These engines represent over 50% of the powerplants built by the manufacturer of interest. By choosing one or more of these engines, the applicant is assured that the process/device is applicable to a representative portion of the fleet for the model year of interest. The ease of obtaining a test vehicle is also enhanced because of the popularity of these engines. Any make or model produced by the manufacturer may be chosen if equipped with a suggested engine and an automatic transmission. The following list of suggested engines is broken down by year and manufacturer. The ranking of the engines for any given manufacturer is by sales volume.

1979 Model Year	1978 Model Year	1977 Model Year	1976 Model Year
General Motors	General Motors	General Motors	General Motors
350 CID V8	305 CID V8	350 CID V8	350 CID V8
305 CID V8	350 CID V8	305 CID V8	305 CID V8
301 CID V8	231 CID V6		
Chrysler Corp.	Chrysler Corp.	Chrysler Corp.	Chrysler Corp.
225 CID L6	318 CID V8	318 CID V8	225 CID L6
318 CID V8	225 CID L6	225 CID L6	318 CID V8
Ford Motor Co.	Ford Motor Co.	Ford Motor Co.	Ford Motor Co.
302 CID V8	351 CID V8	302 CID V8	351 CID V8
140 CID L4	302 CID V8	351 CID V8	140 CID L4
	200 CID L6	400 CID V8	250 CID L6
American Motors	American Motors	American Motors	American Motors
258 CID L6	258 CID L6	258 CID L6	258 CID L6
232 CID L6			

1975 Model Year	1974 Model Year	1973 Model Year
General Motors	General Motors	General Motors
350 CID V8	350 CID V8	350 CID V8
400 CID V8		
Chrysler Corp.	Chrysler Corp.	Chrysler Corp.
225 CID L6	225 CID L6	318 CID V8
318 CID V8	318 CID V8	225 CID L6
Ford Motor Co.	Ford Motor Co.	Ford Motor Co.
351 CID V8	140 CID L4	351 CID V8
250 CID L6	351 CID V8	400 CID V8
302 CID V8	400 CID V8	122 CID L4
American Motors	American Motors	American Motors
258 CID L6	258 CID L6	258 CID L6
232 CID L6	232 CID L6	232 CID L6